TECHNICAL BASIS FOR TIER I OPERATING PERMIT

DATE: July 24, 2002

PERMIT WRITER: Zach Q. Klotovich

PERMIT COORDINATOR: Bill Rogers

SUBJECT: *TECHNICAL MEMORANDUM FOR TIER I OPERATING PERMIT*
AIRS Facility No. 029-00003, Nu-West Ind., Inc.; Agrium Conda Phosphate Operations
Final Tier I Operating Permit

Permittee:	Nu-West Industries, Inc.; Agrium Conda Phosphate Operations
Permit Number:	029-00003
Air Quality Control Region:	61
AIRS Facility Classification:	A
Standard Industrial Classification:	2874
Zone:	12
UTM Coordinates:	455.8, 4731.8
Facility Mailing Address:	3010 Conda Rd., Soda Springs, ID 83276
County:	Caribou
Facility Contact Name and Title:	Monty Johnson, Environmental Manager
Contact Name Phone Number:	(208) 547-4381
Responsible Official Name and Title:	Charles H. Ross, General Manager
Exact plant Location:	7 miles North of Soda Springs, 1.2 miles East of Highway 34
General Nature of Business & Kinds of Products:	Phosphate-based fertilizer products

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
APS	ammonium phosphate sulfate
AQCR	Air Quality Control Region
BART	Best Available Retrofit Technology
CFR	Code of Federal Regulations
CO	carbon monoxide
DAP	Diammonium phosphate (18-46-0)
DEQ	Department of Environmental Quality
DPA	dilute phosphoric acid
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gr	grain (1 lb = 7,000 grains)
gr/dscf	grains per dry standard cubic foot
H_2SO_4	sulfuric acid
H_3PO_4	phosphoric acid
HAPs	hazardous air pollutants
HF	hydrofluoric acid
Hg	mercury
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
MAP	mono-ammonium phosphate (11-52-0)
MGA	merchant grade acid
MIBK	methyl isobutyl ketone
MMBtu/hr	million British thermal units per hour
NAAQS	National Ambient Air Quality Standard
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NPK	% nitrogen-% phosphorus-% potassium
NSPS	New Source Performance Standards
P_2O_5	phosphorus pentoxide
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PPA	purified phosphoric acid
PSD	Prevention of Significant Deterioration
PTC	permit to construct
SCC	Source Classification Code
SO_2	sulfur dioxide
SPA	super phosphoric acid
T/yr	tons per year
VOC	volatile organic compound

PUBLIC COMMENT / AFFECTED STATES / EPA REVIEW SUMMARY

A 30-day public comment period for the Nu-West Industries, Inc. (Nu-West) Agrium Conda Phosphate Operation draft Tier I operating permit was held from May 16 through June 17, 2002 in accordance with IDAPA 58.01.01.364, *Rules for the Control of Air Pollution in Idaho.*

IDAPA 58.01.01.008.01, defines *affected states* as: *"All states: whose air quality may be affected by the emissions of the Tier I source and that are contiguous to Idaho; or that are within 50 miles of the Tier I source."*

A review of the site location information provided in the permit application indicates that the facility is located within 50 miles of two state borders. Therefore, the states of Wyoming and Utah were provided an opportunity to comment on the draft Tier I operating permit.

A Summary of Comments and responses to comments are provided in Appendix C of this memorandum. No comments were received from any affected state. Comments were received from Agrium Conda Phosphate Operations.

A hearing was not requested.

On August 23, 2002, the proposed operating permit and the technical memorandum were sent to EPA for their 45-day review as required by IDAPA 58.01.01.366. EPA did not provide written objection to the proposed permit.

1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for this proposed Tier I operating permit in accordance with IDAPA 58.01.01.362.

The DEQ has reviewed the information provided by Nu-West regarding the operation of the Agrium Conda Phosphate Plant located near Conda, Idaho. This information was submitted based on the requirements to submit a Tier I operating permit in accordance with IDAPA 58.01.01.300.

2. SUMMARY OF EVENTS

March 13, 1995:	DEQ received the Tier I operating permit application from Nu-West for their Agrium Conda Phosphate Plant and an amended version on October 27, 1995.
December 29, 1995:	The application was determined administratively complete.
April 2, 1999:	DEQ received a second amended version dated April 1, 1999.
September 12, 2001:	DEQ received updated excess emissions procedures from Nu-West.
October 10, 2001:	DEQ received amended registration forms and fees.
January 14, 2002:	DEQ received a third amended version of the Tier I operating permit application.
March 18, 2002:	A draft permit was sent to Nu-West for a 15-day review.
April 2, 2002:	One comment was received. The comment asked that Charles H. Ross be listed as the Responsible Official in the permit. He replaced Don LaRue as General Manager.
May 16 to June 17, 2002	A 30-day public comment period for the Nu-West Agrium Conda Phosphate Plant draft Tier I operating permit was held in accordance with IDAPA 58.01.01.364.
June 13, 2002:	EPA revised the MACT scrubber requirements given by 40 CFR 63.604 (phosphoric acid processes) and 63.624 (granulation plant), and the permit was revised accordingly.
June 17, 2002	Comments were received from the facility.
August 23, 2002	DEQ issued a proposed Tier I operating permit for the 45-day EPA review period.
October 11, 2002	DEQ received a letter from EPA stating that the proposed Tier I operating permit was eligible for issuance.
October 22, 2002	DEQ prepared the final Tier I operating permit for issuance.

3. BASIS OF THE ANALYSIS

The following documents were relied upon in preparing this memorandum and the Tier I operating permit:

- Tier I operating permit application, (Third Amended Version) received January 14, 2002; and supplemental application materials received September 12, 2001 and October 10, 2001.
- Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, January 1995, Office of Air Quality Planning and Standards, United States Environmental Protection Agency.
- Guidance developed by EPA and DEQ.
- Title V permits issued by other jurisdictions.

4. FACILITY DESCRIPTION

4.1 GENERAL PROCESS DESCRIPTION

Phosphate fertilizers provide phosphorus, one of the three primary plant nutrients required by plant life. The other two primary nutrients are nitrogen and potassium. Phosphate fertilizer products, which are often made with ammonia, also provide nitrogen. The principal applications of phosphate fertilizers are in the production of corn, wheat, soybeans, barley, cotton, and other small grain crops, fruits, and vegetables. Phosphate rock, sulfur, and anhydrous ammonia are the primary raw materials used to produce ammonium phosphate fertilizers. Phosphate rock is combined with sulfuric acid to produce phosphoric acid, which is then either:

- Combined with anhydrous ammonia to produce various dry granular fertilizers that are differentiated by their NPK content (% nitrogen-% phosphorus-% potassium), including MAP (11-52-0) and APS (16-20-0), or
- Concentrated to produce liquid fertilizer products containing no nitrogen and 52%-72% P_2O_5.

The Conda facility produces multiple products and alters its product mix to meet the changing requirements of its customers. The following is a brief description of the products manufactured at the Conda facility.

Super Phosphoric Acid (SPA)

The manufacture of liquid SPA accounts for approximately 50% of the facility's total production volume. It is produced by concentrating phosphoric acid to a level of 68-72% P_2O_5. The use of liquid fertilizer as a percentage of total phosphate fertilizers applied in the domestic U.S. market has grown steadily over the past few years, due to its agronomic, economic, and ecological advantages. SPA is not an end-use fertilizer; rather, it is upgraded, mixed, or blended with other liquid nutrients, pesticides, and/or herbicides before it is applied. As a liquid, it allows for easy and precise application to crops, which makes more nutrients available to the plant. It can be injected below the soil in minimum-till or no-till programs to prevent leaching into waterways.

Merchant Grade Acid (MGA)

Merchant grade acid (MGA), is produced by concentrating phosphoric acid to a level of 52% P_2O_5. Like SPA, MGA contains no nitrogen and is generally diluted and mixed with other nutrients before application.

Dilute Phosphoric Acid (DPA)

Dilute phosphoric acid (DPA) is the filter-grade acid product of the "wet-acid" phosphoric acid process. This product is the feedstock for MGA. It has a P_2O_5 content of approximately 28%.

Purified Phosphoric Acid (PPA)

PPA is produced by evaporating dilute phosphoric acid and refining the concentrate through solvent extraction. PPA has a P_2O_5 content of approximately 61%.

Dry Granular Products (MAP and APS)

The dry granular fertilizer products manufactured by the company are:

- Mono-ammonium Phosphate ("MAP" or 11-52-0)
- Ammonium Phosphate Sulfate ("APS" or 16-20-0)

4.1.1 MANUFACTURING PROCESS AND RAW MATERIALS

The facility benefits from its close proximity to sources of phosphate rock, sulfuric acid, and sulfur-the principal raw materials used in its manufacturing process. Phosphoric acid is produced through the acidulation of ground phosphate rock with sulfuric acid, water, and recycled phosphoric acid in reaction tanks. The sulfuric acid reacts with the phosphate slurry to produce liquid phosphoric acid and solid gypsum crystals composed of calcium sulfate. The gypsum crystals are physically separated from the liquid phosphoric acid and impounded. The phosphoric acid is concentrated in steam evaporators and used as feedstock in the fertilizer production process. The phosphoric acid is then either:

- Combined with anhydrous ammonia to produce various dry granular fertilizers, or
- Further concentrated to produce liquid fertilizer products containing no ammonia.

Sulfuric acid used in the process is either manufactured by the facility from elemental sulfur or purchased from third party sources. Currently, approximately 50% of the sulfuric acid utilized at the Conda Plant is purchased from a third party source. All of the facility's requirements for sulfur are purchased from unaffiliated third parties in western Wyoming, who extract the sulfur as a by-product of natural gas production.

4.1.2 NUTEC MINERAL & CHEMICAL COMPANY

In January 1991, a wholly owned subsidiary of the company, Nu-West Minerals, Inc. (Nu-West Minerals) formed a joint venture with Mineral Technology Corporation (MinTec) of Custer, South Dakota. MinTec owned the worldwide, patented rights to a process that extracts high-purity synthetic silica in a gaseous form, from the production of phosphoric acid. The process also includes techniques for refining and further purifying the extracted "wet cake" into dry, synthetic silica. The joint venture, NuTec Mineral & Chemical Company (NuTec), develops and produces high purity silica and other chemical and natural quartz products.

NuTec's production facilities were constructed at the Conda Plant to process synthetic silica (see Section III of the application, ER-18, Source: S-Si-1). These facilities have operated sufficiently to test production capacities and to produce sample quantities of high-purity synthetic silica. While initial market response has been encouraging, continuous refining of operations and processes is necessary to meet various end-

user requirements for product particle size and density. Potential end uses for which NuTec's products may serve as feedstock include:

- High-purity glass applications, implements, and crucibles used in the production of silicon crystals;
- Low alpha fillers used for silicon chip encapsulation;
- Fiber optic wave guides; and
- High temperature lighting and other technical applications.

The success of the production scale processes, availability of working capital, and the ultimate acceptance and marketing of NuTec's products remains uncertain. Therefore, commercial operations will not proceed unless and until NuTec successfully markets its products and obtains sufficient additional working capital from outside sources.

4.2 FACILITY CLASSIFICATION

The facility is classified as a major source, in accordance with IDAPA 58.01.01.008.10, for Tier I permitting purposes because the facility has the potential to emit (PTE) PM_{10}, SO_2, CO, and NO_x at over 100 T/yr of each pollutant. The facility is subject to PSD permitting requirements for any significant modification because the facility's PTE is above 100 T/yr. This is a designated facility as defined in IDAPA 58.01.01.006.27 (sulfuric acid plant). The AFS classification is "A". This facility is a phosphate fertilizer production plant, Standard Industrial Classification code 2874.

4.3 AREA CLASSIFICATION

The facility is located within Air Quality Control Region 61 and Universal Transverse Mercator Zone 12. The facility is located in Caribou County, which is classified as attainment or unclassifiable for federal and state criteria pollutants (i.e., SO_2, NO_X, CO, PM_{10}, O_3, and lead). There are no Class I areas within 10 km of the facility.

4.4 PERMITTING HISTORY

The Conda Phosphate operation has been operated by Agricultural Products Corporation, Beker Industries, Agrium, and Nu-West.

August 17, 1972: Consent order issued to Agricultural Products Corporation for control of SO_2 emissions from the old (west) sulfuric acid plant. This is no longer applicable since the old sulfuric acid plant has been removed.

October 24, 1973: Amended consent order issued for the old (west) and new (east) sulfuric acid plants. The operation of ambient monitors is the only requirement that is still applicable.

March 28, 1974: Second amended consent order issued, which expired after 60 days. Provisions in the amended consent order were revived.

July 28, 1975: Amended consent order submitted as revision to the Idaho state implementation plan by the Governor, 40 CFR 52.670(b)(15).

July 18, 1979: Operating Permit No. 13-0420-0003-00 issued to Beker Industries in Conda, Idaho. The permit covered the following sources:

- Beneficiation with a vertical dryer with emissions controlled by a cyclone followed by a cyclonic spray scrubber. (No longer operating.)
- North calciner with emissions controlled by three cyclones followed by a venturi scrubber. (No longer operating.)

- No. 3 calciner with emissions controlled by three cyclones followed by a venturi scrubber. (No longer operating.)
- South calciner with emissions controlled by three cyclones followed by a venturi scrubber. (No longer operating.)
- North storage bin emissions controlled by a baghouse. (No longer used.)
- North ball mill with emissions controlled by a baghouse. (No longer operating.)
- South storage area emissions occurring during storage of ore materials and controlled by a baghouse. (No longer operating.)
- Grinding operation (south ball mill) input feed from emissions point 7; emissions controlled by two baghouses. (No longer operating.)
- Production of phosphoric acid including digester and filtration systems, with emissions controlled by a cyclonic spray scrubber. (Superceded by PTC No. 029-00003 dated July 12, 2000.)
- Diammonium phosphate production: Reactor, granulator, and cooler are controlled by an ammonia scrubber followed by a cyclonic scrubber. (Superceded by PTC No. 029-00003 dated July 12, 2000.)
- West sulfuric acid plant. (Removed.)
- East sulfuric acid plant. (Superceded by PTC 029-00003 dated April 27, 2000.)
- Ammonia plant. (Removed.)
- Beneficiation building with baghouse. (Removed.)

August 23, 1985: PTC No. 020-00003 issued to Beker Industries for the Cogen I H_2SO_4 plant, which was never constructed.

August 30, 1985: Operating Permit No. 0420-00003 issued to Beker Industries for the Phosphate Fertilizer Plant (East and West Sulfuric Acid Plants). This permit is no longer applicable. The West Sulfuric Acid Plant has since been removed and the East Sulfuric Acid Plant reconstructed.

August 7, 1992: PTC No. 0029-00003 issued to Nu-West for an Experimental Silica Plant.

July 7, 1995: PTC No. 029-00003 issued to Nu-West for a natural gas-fired boiler (B-5).

July 26, 1995: Section 1.3 of B-5 boiler PTC amended.

August 14, 1996: Sections 1.2 and 2.2 of B-5 boiler PTC amended.

April 27, 2000: PTC No. 029-00003 issued to Nu-West for the East Sulfuric Acid Plant.

July 12, 2000: PTC No. 029-00003 issued to Nu-West for the Sustaining and Expansion projects. The permit includes requirements for the following sources:

- Calciners and rock dryers. (No longer operating.)
- Phosphate fertilizer production plants.
- Boiler, Cleaver-Brooks model DFE-132 IWT.

4.5 EMISSIONS DESCRIPTION

A spreadsheet showing calculated facility-wide emissions is provided in Appendix A.

4.5.1 Source Code List

Emissions units ER-4 through ER-10, ER-16, and ER-21 are no longer in operation at the facility due to changing to a new phosphoric acid process in 2001 that does not require calcined ore. At the request of the permittee, these emissions units are not included in the permit.

Table 4.5.1 SOURCE CODE LIST

Emissions unit	Source Code	Source Name	Location
ER-1	F-Oa-1	Ore unloading and transfer	North end of facility
ER-2	F-Ob-1	Ore transfer to Wash Plant	North end of facility
ER-3	S-W-1	Wash Plant	Wash Plant
~~ER-4~~	~~S-D-1~~	~~Rock Dryer~~	~~Dryer, Wash Plant, N. Calc. Building~~
~~ER-5~~	~~S-Cb-1~~	~~North Calciner~~	~~Dryer, Wash Plant, N. Calc. Building~~
~~ER-6~~	~~S-Ca-1~~	~~#4 Calciner~~	~~#4 Calciner~~
~~ER-7~~	~~F-Oc-1~~	~~#4 Calciner Feed~~	~~North end of Facility~~
~~ER-8~~	~~F-Oc-2~~	~~North Calciner Feed~~	~~Dryer, Wash Plant, N. Calc. Building~~
~~ER-9~~	~~F-Cc-1~~	~~Calcined Ore Transfer~~	~~North end of Facility~~
~~ER-10~~	~~S-B-1; S-B-2~~	~~Ball Mill(s) #1 & #2~~	~~Ball Mill~~
ER-11	S-Fa-1, 2, & 3	Granulation Plant	Granulation Plant
ER-12	F-Fb-1 & 2,F-Fc-1	Dry product transfer and loadout	Shipping Warehouse
ER-13	S-Pb-1	Super acid filtration	Superphosphoric Acid Plant
ER-14	S-Se-1	East Sulfuric Acid Plant	East Sulfuric Acid Plant
ER-15	S-Nb-1	B-5 Nebraska boiler	North Sulfuric Acid Plant
~~ER-16~~	~~S-Cd-1~~	~~Ground Rock Silo~~	~~Phos. Acid~~
ER-17	S-Pa-1	Phosphoric Acid Plant	Phosphoric Acid Plant
ER-18	S-Si-1	Experimental Silica Plant	Experimental Silica Plant
ER-19	F-R-1	Fugitive road dust	Facility
ER-20	S-Pa-2a & 2b	Thermal fluid heaters	Phosphoric Acid Plant
~~ER-21~~	~~S-C-1~~	~~Coal Combustion in Calciners~~	~~#4 Calciner or N. Calciner~~
ER-22	F-Op-1	Fugitive dust from ore piles	North end of facility
ER-23	F-Fc-1	Dry product sizing and transfer	Granulation/Dry Product Warehouse
ER-24	N-G-1	Natural gas usage	Facility-wide and B-5 boiler
ER-25	S-Pp-1	Purified Phosphoric Acid Plant	Purified Phosphoric Acid Plant
ER-26	S-CB-1	Cleaver-Brooks boiler	Purified Phosphoric Acid Plant

5. REGULATORY ANALYSIS

Provided within the Tier I permit are copies of regulations from 40 CFR which were current as of the time of issuance of the permit. Where the Department has provided a reprint of an applicable federal regulation, in the case of any discrepancy or conflict between the reprint and the Code of Federal Regulations (CFR), the requirement in the CFR shall control.

5.1 FACILITY-WIDE APPLICABLE REQUIREMENTS

5.1.1 Fugitive Particulate Matter - IDAPA 58.01.01.650-651

5.1.1.1 Requirement

Permit Condition 1.1 states that all reasonable precautions shall be taken to prevent particulate matter from becoming airborne in accordance with IDAPA 58.01.01.650-651.

5.1.1.2 Compliance Demonstration

Permit Condition 1.2 states that the permittee is required to monitor and maintain records of the frequency and the methods used by the facility to reasonably control fugitive particulate emissions. IDAPA 58.01.01.651 gives some examples of ways to reasonably control fugitive emissions which include using water or chemicals, applying dust suppressants, using control equipment, covering trucks, paving roads or parking areas, and removing materials from streets.

Permit Condition 1.3 requires that the permittee maintain a record of all fugitive dust complaints received. In addition, the permittee is required to take appropriate corrective action as expeditiously as practicable after a valid complaint is received. The permittee is also required to maintain records that include the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

To ensure that the methods being used by the permittee to reasonably control fugitive particulate matter emissions whether or not a complaint is received, Permit Condition 1.4 requires that the permittee conduct periodic inspections of the facility. The permittee is required to inspect potential sources of fugitive emissions during daylight hours and under normal operating conditions. If the permittee determines that the fugitive emissions are not being reasonably controlled the permittee shall take corrective action as expeditiously as practicable. The permittee is also required to maintain records of the results of each fugitive emissions inspection. Both Permit Conditions 1.3 and 1.4 require the permittee to take corrective action as expeditiously as practicable. In general, the Department believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive particulate emissions are not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.2 Control of Odors - IDAPA 58.01.01.775-776

5.1.2.1 Requirement

Permit Condition 1.5 and IDAPA 58.01.01.776 both state that: *"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution."* This condition is currently considered federally enforceable until such time it is removed from the State Implementation Plan, at which time it will be a state-only enforceable requirement.

5.1.2.2 Compliance Demonstration

Permit Condition 1.6 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Permit Condition 1.6 requires the permittee to take corrective action as expeditiously as practicable. In general, the Department believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.3 Visible Emissions - IDAPA 58.01.01.625

5.1.3.1 Requirement

IDAPA 58.01.01.625 and Permit Condition 1.7 states: *"(No) person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined..."* by IDAPA 58.01.01.625. This provision does not apply when the presence of uncombined water, NO_x, and/or chlorine gas is the only reason(s) for the failure of the emission to comply with the requirements of this rule.

5.1.3.2 Compliance Demonstration

To ensure reasonable compliance with the visible emissions rule, Permit Condition 1.8 requires that the permittee conduct routine visible emissions inspections of the facility. The permittee is required to inspect potential sources of visible emissions, during daylight hours and under normal operating conditions. The visible emissions inspection consists of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission covered by this section, the permittee must either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is determined to be greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee must take corrective action and report the exceedance in its annual compliance certification and in accordance with the excess emissions rules in IDAPA 58.01.01.130-136. The permittee is also required to maintain records of the results of each visible emissions inspection and each opacity test when conducted. These records must include the date of each inspection, a description of the permittee's assessment of the conditions existing at the time visible emissions are present, any corrective action taken in response to the visible emissions, and the date corrective action was taken.

It should be noted that if a specific emissions unit has a specific compliance demonstration method for visible emissions that differs from Permit Condition 1.8, then the specific compliance demonstration method overrides the requirement of Condition 1.8. Condition 1.8 is intended for small sources that would generally not have any visible emissions.

Permit Condition 1.8 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of discovering visible emissions meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.4 Startup, Shutdown, Scheduled Maintenance, Safety Measures, Upset and Breakdown- IDAPA58.01.01.130-136

5.1.4.1 Requirement

Permit Condition 1.9 requires that the permittee comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upset, and breakdowns. This section is fairly self-explanatory and no additional detail is necessary in this technical analysis. It should; however, be noted that subsections 133.02, 133.03, 134.04, and 134.05 are not specifically included in the permit as applicable requirements. These provisions of the *Rules* only apply if the permittee anticipates requesting consideration under subsection 131.02 of the *Rules* to allow DEQ to determine if an enforcement action to impose penalties is warranted. IDAPA 58.01.01.131.01 states "*...The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 131.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05.*" Failure to prepare or file procedures pursuant to Sections 133.02 and 134.04 is not a violation of the *Rules* in and of itself, as stated in subsections 133.03.a and 134.06.b. Therefore, since the permittee has the option to follow the procedures in Subsections 133.02, 133.03, 134.04, and 134.05; and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

5.1.4.2 Compliance Demonstration

The compliance demonstration is contained within the text of Permit Condition 1.9. No further clarification is necessary here.

5.1.5 Reports and Certifications

All periodic reports and certifications required by this permit shall be submitted within 30 days of the end of each specified reporting period to the appropriate DEQ and EPA regional office.

5.1.6 Monitoring and Recordkeeping

The permittee is required to maintain recorded data in an appropriate location for a period of at least five years from the date on which the data was generated. Though certain applicable requirements may have shorter retention times, this requirement specifies that the permittee must maintain recorded data for a period that will satisfy the shorter minimum record retention times.

5.1.7 Open Burning

All open burning shall be done in accordance with IDAPA 58.01.01.600-616.

5.1.8 Renovation/Demolition - Asbestos - 40 CFR 61, Subpart M

The permittee shall comply with all applicable portions of 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

5.1.9 Chemical Accident Prevention Provisions - 40 CFR 68

This facility is subject to the requirements of 40 CFR 68. The facility is capable of having 10,000 lbs or greater of anhydrous ammonia.

Any facility that has more than a threshold quantity of regulated substance in a process, as determined under 40 CFR 68.115, must comply with the Chemical Accident Prevention Provisions no later than the latest of the following dates:

- Three years after the date on which a regulated substance present above a threshold quantity is first listed under 40 CFR 68.130.

- The date on which a regulated substance is first present above a threshold quantity in a process.

5.1.10 Test Methods

The test method(s) for each emissions limit is listed in the permit in accordance with the EPA's comments:

"Test methods and Averaging Times: The specific reference test method and averaging times for each emission limit must be identified in the permit. A reference test method must be identified even if no source-testing requirement is imposed by the permit. Please note that, although we are aware that the State rules have recently been revised to include averaging items and test methods for most emission limits, the revised version of the Rules will not have been approved into the SIP at the time of issuance of the first permits."

If this permit requires any testing, it shall be conducted in accordance with the methods and procedures described in IDAPA 58.01.01.157.

5.1.10.1 Opacity

The opacity shall be determined by the procedures contained in IDAPA 58.01.01.625 (4/23/99). For NSPS-affected sources, EPA Reference Method 9 should be used.

5.1.10.2 PM/PM_{10}

For PM/PM_{10} performance tests, EPA's Method 5 or Method 201A shall be used to measure filterable PM/PM_{10} and EPA Method 202 shall be used to determine condensable PM/PM_{10}, or alternative methods shall be used as approved in accordance with IDAPA 58.01.01.157. The averaging time comes from the EPA Reference Method 5, 201 or 202, as applicable.

5.1.10.3 CO

The EPA Reference Method 10, or a DEQ-approved testing method, shall be used to test CO emissions. The averaging time comes from the EPA Reference Method 10.

5.1.10.4 SO_2, NO_x, and VOC

The EPA Reference Method 6, or a DEQ-approved testing method, shall be used to test SO_2 emissions. The EPA Reference Method 7, or a DEQ-approved testing method, shall be used to test NO_x emissions. The EPA Reference Method 25, or a DEQ-approved testing method, shall be used to test VOC emissions. The averaging time for each pollutant comes from the corresponding EPA Reference Method.

5.1.10.5 Visible Emissions Inspection

The visible emissions inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any level visible emissions is present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test.

5.1.11 Fuel-burning Equipment - Particulate Matter - IDAPA 58.01.01.650

Nu-West has several natural gas-fired heaters at the facility. They are listed in Section 3, Supplement E, of the application. No compliance demonstration is required for the natural gas-fired heaters because they will not exceed the particulate matter standard.

5.1.12 Permit Requirement - Sulfur Content - IDAPA 58.01.01.728 and 729, 5/1/94

5.1.12.1 Applicable Requirement

According to the permittee's application (PPA process description), distillate fuel oil is used at the facility for an emergency fire water pump.

5.1.12.2 Compliance Demonstration

The permittee shall maintain supplier verification documentation detailing distillate fuel oil and coal sulfur content on an as-received basis. All distillate fuel oil received must contain no more than 0.3% sulfur by weight for grade 1 and 0.5% sulfur by weight for grade two to demonstrate compliance with the standard in IDAPA 58.01.01.728. All coal received must contain no more than 1% sulfur by weight to demonstrate compliance with the standard in IDAPA 58.01.01.729.

5.1.13 Recycling and Emissions Reductions

The application does not address the applicability of 40 CFR 82, Subpart F - Recycling and Emissions Reductions. The purpose of Subpart F is to reduce emissions of class I and class II refrigerants to the lowest achievable level during the service, maintenance, repair, and disposal of appliances in accordance with section 608 of the Clean Air Act. Subpart F applies to any person servicing, maintaining, or repairing appliances except for motor vehicle air conditioners. Subpart F also applies to persons disposing of appliances, including motor vehicle air conditioners.

5.1.14 Fugitive Dust Emissions

The Sustaining and Expansion projects PTC, issued July 12, 2000, limits visible fugitive emissions crossing the property boundary to three minutes in any 60-minute period. Reasonable control of fugitive dust and a monthly inspection for sources of visible emissions is required to demonstrate compliance with the standard. Compliance with this permit condition is primarily determined by the monthly inspection for fugitive dust (Permit Condition 1.4) which includes a see/no see evaluation to determine if any visible fugitive dust emissions are crossing the facility boundary. If no visible emissions are observed crossing the facility boundary, the facility is in compliance and no further action is necessary. If any visible fugitive dust emissions are observed crossing the property boundary, the permittee shall either take appropriate corrective action as expeditiously as practicable, or conduct a visible emissions determination using Method 22 or a Department approved alternative method to determine compliance. This requirement covers sources F-R-1 (fugitive road dust) and F-Op-1 (fugitive dust from ore piles) in addition to any other sources of fugitive dust.

5.1.15 Fluoride Emissions

The Conda plant is a phosphate fertilizer plant that must demonstrate compliance with the fluoride emissions standard in IDAPA 58.01.01.751.01. The standard is based on pounds of fluoride emissions per ton of P_2O_5 input to the calciner. Since Nu-West recently changed their process, eliminating the use of the calciners, the language in the permit bases allowable fluoride emissions on tons of P_2O_5 input to the phosphate fertilizer plant.

IDAPA 58.01.01.751.03 requires that the DEQ specify methods for calculating total allowable emissions and issue source specific permits containing emissions limitations for the following sources within phosphate fertilizer plants:

- Calciner operation,
- Wet phosphoric acid plants,
- Super phosphoric acid production,
- Diammonium phosphate plants,
- Monoammonium phosphate production,

- Triple super phosphate (mono calcium phosphate) production.

Nu-West does not operate calciners and does not produce diammonium phosphate or triple super phosphate. The other sources-wet phosphoric acid production, super phosphoric acid production, and mono-ammonium phosphate production (Granulation Plant)-all have specific fluoride emissions limits.

5.1.16 Operation of Ambient Monitors

The consent order issued October 24, 1973, required the Nu-West facility to operate two ambient Hi-Vol particulate monitors and one ambient SO_2 monitor. PM_{10} monitors have replaced the Hi-Vol monitors for particulate.

5.2 Applicability of MACT General Provisions - 40 CFR 63

The owner or operator shall comply with the requirements of the general provisions in 40 CFR 63, Subpart A as shown in Appendix A to 40 CFR 63, Subpart AA and as shown in Appendix A to 40 CFR 63, Subpart BB. Subpart A requirements that specify an action by the permittee have been included in the permit at Appendix A.

Other requirements in Subpart A are applicable, as specified in Appendix A to Subpart AA and Appendix A to Subpart BB, but do not require an action by the permittee. These requirements are included by reference.

6. REGULATORY ANALYSIS - EMISSIONS UNITS

6.1 Ore unloading and transfer

Emissions Reference #	Source Code	Location
ER-1	F-Oa-1	North end of facility

During the year 2000, 1.4 million tons of phosphate ore were unloaded and transferred to storage piles. The diagram labeled "Ore Unloading and Storage" (as shown in the April 1, 1999 permit application) illustrates the general layout of unprocessed ore handling at the facility. The conveyor system can feed two piles at one time. A total of seven unenclosed drop points may occur while feeding two piles. The following calculation estimates the maximum actual PM emissions from the unloading, transfer, and storage of unprocessed ore at the facility:

0.0001196 lb/ton * 1,400,000 T/yr * 1 ton/2000 lbs * 7 drop points = 0.6 tons PM/yr

Note: The emission factor derivation is provided in Section 3 of the application.

Because the estimated emissions from this process are well below 10% of significant (2.5 tons of PM per year), this process is insignificant in accordance with IDAPA 58.01.01.317.01.b.i.(30). The ore unloading and transfer process is listed in the insignificant activities table within the permit. The ore unloading and transfer process is still subject to the reasonable control of fugitive dust requirements in Permit Condition 1.1.

6.2 Ore transfer to Wash Plant

Emissions Reference #	Source Code	Location
ER-2	F-Ob-1	North end of facility

During the year 2000, 1.2 million tons of phosphate ore were fed to the Wash Plant. The diagram labeled "Ore Storage to Wash Plant" (as shown in the April 1, 1999 permit application) illustrates the general layout of unprocessed ore transfer from the storage piles into the Wash Plant. A total of seven

unenclosed drop points may occur while transferring ore from the storage piles into the Wash Plant. The following calculation estimates the emissions from this ore transfer at the facility:

0.0001196 lb/ton * 1,200,000 T/yr * 1 ton/2000 lbs * 7 drop points = 0.5 tons PM/yr

Note: The emission factor derivation is provided in Section 3 of the application.

This process is insignificant in accordance with IDAPA 58.01.01.317.01.b.i.(30) since the estimated emissions from this process are well below 10% of significant (2.5 tons PM/yr). The ore unloading and transfer process is listed in the insignificant activities table within the permit. The ore transfer process is still subject to the reasonable control of fugitive dust requirements in Permit Condition 1.1.

6.3 Wash Plant and Grinding Mill

Emissions Reference #	Source Code	Location
ER-3	S-W-1	Wash Plant Building
	S-W-2	Grinding Mill

The function of the Wash Plant is to beneficiate phosphate ore by removing the "fines" and crushing the ore to ¼ inch for passage into the Wet Grinding Mill.

Wash Plant product, or "washed ore" can be fed directly to the Wet Grinding Mill or stockpiled. Fines removed from the ore through beneficiation are slurried to a settling pond.

The Wash Plant (S-W-1) and associated equipment is a wet beneficiation process and has no significant emissions. There is one drop point outside the building where washed (beneficiated) ore is stockpiled.

The function of the Wet Grinding Mill (S-W-2) is to grind phosphate ore to an average particle size of 2/1000 of an inch. The finely ground ore can then be introduced as a slurry into the Phosphoric Acid Plant.

Section 3 of the application estimates emissions from this process to be 0.32 tons PM/year. Because the estimated emissions from this process are well below 10% of significant (2.5 tons PM/yr), this process is insignificant in accordance with IDAPA 58.01.01.317.01.b.i.(30). The Wash Plant and Grinding Mill process is listed in the insignificant activities table within the permit. However, it is still subject to the reasonable control of fugitive dust requirements in Permit Condition 1.1.

6.4 EMISSIONS UNIT 2 – GRANULATION PLANT

Emissions Unit Description

The Granulation Plant produces two different grades of dry products:

- Mono-ammonium phosphate (MAP or 11-52-0)
- Ammonium phosphate (16-20-0)

Phosphoric acid from the Phosphoric Acid Plant, and ammonia purchased from outside the facility, are the primary raw materials. Ammonia may be delivered to the facility by either rail or truck.

The two products are differentiated by the amounts of ammonia and phosphate they contain. The basic reaction involved in the two products is the neutralization of the phosphoric acid by the ammonia. This generates a large quantity of heat and is responsible for the steam plume that may be seen exiting the granulation stack.

At various points in the process, dust, fluorine fumes, or ammonia fumes are generated. Scrubbers are used to remove these fumes from the air exiting the plant. Phosphoric acid and water are used as the scrubbing media to absorb fumes and dust from the granulation process, and the scrubber liquor then becomes part of the granulator feed.

The scrubbing solution, which has absorbed the various fumes and dust, is fed to the preneutralizer, where more ammonia is added. The preneutralizer solution is referred to as slurry, a hot, thick, and sticky, partially neutralized solution.

The slurry is fed to the granulator where it is sprayed on a rolling bed of fine-sized product. More ammonia is sparged beneath the surface of the bed. The ammonia addition completes the neutralization and generates more heat. This heat causes the slurry to evaporate and the rotating motion of the bed causes the fine product to grow into larger, round granules.

The granulator discharges to a rotary dryer where almost all of the moisture is removed from the granules. The dryer discharges onto a conveyor belt that feeds the primary elevator, a bucket type elevator that moves the product to the top of the Granulation Plant and feeds a series of vibrating screens. The purpose of the screens is to reject product that is either too large or too small. The proper-sized product is fed to a rotary cooler via a series of chutes and conveyor belts. It is air cooled and conveyed to the Dry Product Warehouse for storage. A dust-suppression solution is sprayed on the product at the exit of the rotary cooler.

Under-sized product drops through the screens and is recycled to the granulator via two drags and another elevator. Over-sized particles are conveyed to a series of rotating cage mills and broken down into fines, which are also recycled to the granulator. Plants of this type typically have high recycle loads, that is, a large portion of the material exiting the granulator-including some on-size product-is fed back to the granulator. This is necessary to maintain the rolling bed and control granulator temperatures.

Emissions Reference #	Source Code	Source	Control Device	
ER-11	S-Fa-1	Granulator	A-Fa-1a	Venturi Scrubber (phosphoric acid)
			A-Fa-1b	Spray tower scrubber (water)
	S-Fa-2	Dryer	A-Fa-2a	Multiple Cyclone (dry)
			A-Fa-2b	Venturi Scrubber (phosphoric acid)
	S-Fa-3	Cooler	A-Fa-3	Baghouse

P-Fa-1/2 Common exhaust stack from A-Fa-1 and A-Fa-2 control devices

A process flow diagram for the Granulation Plant can be found in Section 3 of the application.

Permit Requirement - Fluoride Emissions - 40 CFR 63, Subpart BB

Subpart BB, National Emission Standards for Hazardous Air Pollutants from Phosphate Fertilizer Production Plants, is applicable to the Granulation Plant because it contains a diammonium/ mono-ammonium phosphate process line. The Granulation Plant is considered a "new" source because it was modified in 2000, after the standard was promulgated. The fluoride standard for new sources is 0.058 pounds of fluoride per ton of equivalent P_2O_5 feed (29.0 grams/metric ton). Nu-West does not manufacture granular triple superphosphate, the other process to which subpart BB is applicable.

Compliance Demonstration

Operating, monitoring, and recordkeeping requirements that demonstrate compliance with the standard are provided in the NESHAP. The requirements have been included in the permit.

Permit Requirement - Process Weight Limitations

The particulate matter standard in IDAPA 58.01.01.701 applies to the Granulation Plant. The Granulation Plant is considered a "new" source because it was modified in 2000.

Compliance Demonstration

The permittee will conduct an EPA Method 5 source test to determine emissions of particulate matter from the Granulation Plant. The process weight measured during the source test will be used in an equation from Permit Condition 2.2 to determine an allowable emissions rate.

Non-applicable Requirement - Fuel Burning Equipment Particulate Matter Standards

The standards for fuel burning equipment do not apply to the dryer because the products of combustion come into direct contact with the material being dried. Therefore, direct heat transfer is taking place. The definition of "fuel-burning equipment" specifies that indirect heat transfer must take place in order for a unit to be classified as fuel-burning equipment.

6.5 EMISSIONS UNIT 3 - DRY PRODUCT TRANSFER/LOADOUT

Emissions Reference #	Source Code	Location
ER-12	F-Fb-1	"Shipping Building"
	F-Fb-2	
	F-Fc-1	

Emissions Unit Description

The Granulation Plant produces two different grades of dry fertilizer. The dry fertilizer conveyed to the Shipping Warehouse and stored until shipment to customers. The warehouse holds approximately 60,000 tons of dry fertilizer products. Before proceeding to storage, the fertilizer is treated at the Granulation Plant with a dust-suppression solution. Front-end loaders are used to transfer the fertilizer from the piles inside the warehouse to the feeders and conveyers. The fertilizer is sized and loaded into railcars or trucks. Additional dust-suppression solution may be added to suit customer requirements.

For the year 2000, dry product production was 307,976 tons. Emissions cited within this section are estimated using that total. The following estimations are based on an emission factor given in AP-42, Table 8.5.3-1 (ver.1/95) for product sizing and material transfer.

307,976 tons/yr * 0.06 lbs PM/ton * ton/2000 lbs = 9.2 tons Particulate/yr

Permit Requirement - Process Weight Limitations

The particulate matter standard in IDAPA 58.01.01.702 applies to the dry product transfer/loadout.

Compliance Demonstration

The application says 307,976 tons were processed in 2000. This can be converted to a conservative hourly process weight by dividing the annual throughput by 8,760 hours per year.

307,976 tons/year / (8760 hours/year) = 35.16 T/hr

35.15 T/hr * (2000 lb/ton) = 70,300 lb/hour

The allowable emissions limit is found using equation b from IDAPA 58.01.01.702.01.

$1.12 * (70{,}300)^{0.27}$ = 22.8 lb/hr (allowable emissions)

The AP-42 emission factor shows that the transfer process will never exceed the allowable limit.

0.06 lb PM/ton * (35.16 T/hr) = 2.1 lb/hr (estimated actual emissions)

Because the actual emissions will never exceed the allowable emissions, no monitoring or recordkeeping is required to assure compliance.

6.6 EMISSIONS UNIT 4 - EAST SULFURIC ACID PLANT

Emissions Reference #	Source Code	Location
ER-14	S-Se-1	East Sulfuric Acid Plant
	P-Se-1	Exhaust stack from process

Emissions Unit Description

The East Sulfuric Acid Plant is a double contact sulfuric acid process. Emissions from the East Sulfuric Acid Plant are regulated under the NSPS rules found in 40 CFR 60 Subpart H (Standards of Performance for Sulfuric Acid Plants) and by PTC No.029-00003, issued April 27, 2000. The emissions limits are as follows:

- Maximum SO_2 emission = 4 lb/ton sulfuric acid produced; 258 lb/hr; 945 tons/yr.
- Maximum SO_3 and acid mist emission = 0.15 lb/ton sulfuric acid produced.

6.6.2 Permit Requirement - SO_2 Emissions

Emissions from the East Sulfuric Acid Plant are limited by the NSPS in 40 CFR 60.82(a) to four pounds of SO_2 emissions per ton of sulfuric acid produced. IDAPA 58.01.01.845 limits emissions of SO_2 from sulfuric acid plants to 28 pounds per ton of 100% sulfuric acid produced. These emission limits have been streamlined in the permit. Because the NSPS is always more stringent than the state standard, as long as the permittee complies with the NSPS standard the state standard will never be exceeded.

Compliance Demonstration

Operating, monitoring, and recordkeeping requirements that demonstrate compliance with the standard are provided in the NSPS. Note that on February 1, 2002, the Department acknowledged completion of the initial source test required by Permit Condition 3.1.2 of the April 27, 2000 PTC. In addition the April 27, 2000, PTC requires an annual compliance test. The requirements have been included in the permit, including the alternate SO_2 CEMs approach listed in 40 CFR 60.84(d).

Permit Requirement - Sulfuric acid mist emissions

Sulfuric acid mist emissions from the East Sulfuric Acid Plant are limited by 40 CFR 60.83 to 0.15 pounds per ton of sulfuric acid produced.

Compliance Demonstration

Operating, monitoring, and recordkeeping requirements that demonstrate compliance with the standard are provided in the NSPS. In addition the April 27, 2000, PTC requires an annual compliance test. The requirements have been included in the permit.

Permit Requirement - Visible Emissions

Visible emissions from the East Sulfuric Acid Plant are limited to 10% opacity by the NSPS in 40 CFR 60.83.

Compliance Demonstration

Operating, monitoring, and recordkeeping requirements that demonstrate compliance with the standard are provided in the NSPS. In addition the April 27, 2000, PTC requires an annual compliance test. The requirements have been included in the permit.

Permit Requirement - Process Weight Limitations

The particulate matter standard in IDAPA 58.01.01.701 applies to the East Sulfuric Acid Plant. The East Sulfuric Acid Plant is considered a "new" source because it was modified in 2000.

Compliance Demonstration

The permittee will conduct an EPA Method 5 source test to determine emissions of particulate matter from the East Sulfuric Acid Plant. The process weight measured during the source test will be used in an equation from Permit Condition 4.4 to determine an allowable emissions rate.

6.7 EMISSIONS UNIT 5 - "B-5" NEBRASKA BOILER

Emissions Reference #

ER-15

Source Code	Source Name	Model	Rated Capacity
S-NB-1B-5	**Nebraska boiler**	**NSX-G-107ECON**	**213.8 MMBtu/hr (175,000 lb steam/hr)**

A-Nb-1 Low NO_x package boiler.
P-Nb-1 Exhaust stack from S-Nb-1

Emissions Unit Description

The B-5 Nebraska boiler is a natural gas-fired boiler used to produce steam necessary to the Phosphoric Acid Plant operations.

Permit Requirement - Nitrogen Oxide Emissions, 40 CFR 60, Subpart Db

The B-5 boiler was installed in 1995 and is subject to the New Source Performance Standards Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) because construction commenced after June 19, 1984, and the heat input capacity is greater than 100 MMBtu/hr.

The sulfur dioxide and particulate matter standards in Subpart Db do not apply to the B-5 boiler because it is fueled exclusively by natural gas. The only applicable standard is that for nitrogen oxide at 40 CFR 60.44b.

40 CFR 60, Subpart A requirements are included in the permit. The subparts included are:

- 60.4 - Address
- 60.7 - Notification and recordkeeping
- 60.8.1 - Performance tests
- 60.11(d),(g) - Compliance with standards and maintenance requirements
- 60.12 - Circumvention
- 60.13(a),(b),(d),(e),(f),(h),(i),(j) - Monitoring (Some monitoring requirements in 60.13 apply specifically to opacity limits so they were not included in this permit.)

Compliance Demonstration

Operating, monitoring, and recordkeeping requirements that demonstrate compliance with the standard are provided in the NSPS subpart. The requirements have been included in the permit.

Permit Requirement - PM, PM_{10}, SO_2, CO, and VOC Emissions

Table 5.3 includes emission limits for PM, PM_{10}, SO_2, CO, and VOCs. The emission limits come from PTC No. 029-00003, issued July 7, 1995.

Compliance Demonstration

The permittee shall determine compliance with emission limits for the B-5 boiler by maintaining records of the amount of natural gas burned in the boiler. Compliance with the hourly emission limits for PM, PM_{10}, SO_2, CO, and VOCs has already been demonstrated by calculating the emissions using AP-42 emission factors and the maximum hourly fuel input to the boiler. This was accomplished as part of the technical analysis for PTC No. 029-00003, issued July 7, 1995. On-going compliance with the hourly emission limits for PM, PM_{10}, SO_2, CO, and VOCs is assured so long as the fuel input to the boiler does not exceed 213.8 MMBtu/hr (as stated in the PTC application), and the boiler is maintained in good working order an operated as efficiently as possible (PTC General Provision B). Since compliance has been demonstrated based on the maximum fuel input rate to the boiler, hourly monitoring of the fuel input to the boiler is not necessary to demonstrate continuous compliance with the hourly emission limits.

Compliance with the annual emission limits for PM, PM_{10}, SO_2, CO, and VOCs is demonstrated by calculating the emissions using AP-42 emission factors and the annual amount of fuel input to the boiler. This has also previously been accomplished as part of the technical analysis for PTC No.029-00003, issued July 7, 1995 based on a maximum fuel input of 1,768,000,000 scf of natural gas per year. On-going compliance with the annual emission limits for PM, PM_{10}, SO_2, CO, and VOCs is assured so long as the fuel input to the boiler does not exceed the permit limit of 1,768,000,000 scf of natural gas per year, and the boiler is maintained in good working order and operated as efficiently as possible (PTC General Provision B). Therefore, monthly monitoring of the fuel input to the boiler is necessary to demonstrate continuous compliance with the annual permit limits, based on a 12-month rolling average.

Permit Requirement - Fuel Burning Equipment

The B-5 boiler was installed in 1995; therefore, it is subject to the particulate matter standard for new fuel-burning equipment (IDAPA 58.01.01.676).

Compliance Demonstration

It is proposed that compliance with the particulate matter standard be assumed provided that only natural gas is combusted. According to AP-42, Section 1.4, from one-to-five pounds of particulate is generated per million cubic feet ($lb/10^6$ scf) of natural gas combusted in large industrial boilers (>100 MMBtu/hr). Also, according to 40 CFR 60, Appendix A, Method 198, approximately 8,710 dscf of flue gas at standard conditions (68° F, 29.92 inches of mercury [Hg]) is created per million Btu's of natural gas. This data is used in the following steps to demonstrate that particulate emissions from the combustion of natural gas will always be less than the particulate matter standard of 0.015 gr/dscf.

To correct the flue gas volume:

1) For 5,500 feet, the altitude of Soda Springs:
(per IDAPA 58.01.01.680)

   Subtract 0.10 x 55.00 = 5.500 inches Hg from standard atmospheric pressure at sea level

   29.92 inches Hg - 5.500 inches Hg = 24.42 inches Hg

2) Using the Ideal Gas Law and knowing that n, R, and T will be the same,

$$V_2 = \frac{P_1 V_1}{P_2} \qquad (5.1)$$

where,

V_2 = the gas volume corrected for altitude,
V_1 = the known gas volume (8,710 dscf),

P_1 = the pressure of the known gas volume (29.92 inches Hg)
P_2 = the pressure of the corrected gas volume (24.42 inches Hg).

The altitude corrected volume (V_2) of the flue gas is 10670 dscf.
For 3% oxygen:

Using a standard correction ratio as presented in 40 CFR 60, Appendix A, Method 19,

$$F_2 = F_1 \times \frac{20.9}{20.9 - 3.0} \qquad (5.2)$$

where,

F_2 = the gas volume corrected to 3% oxygen,
F_1 = the altitude corrected flue gas volume (10,670 dscf) as calculated in Equation 5.1.

The oxygen and altitude corrected volume (F_2) of the flue gas is 12,460 dscf per million Btu of natural gas.

3) Determine the volume of flue gas created by the combustion of one million cubic feet of natural gas:

10^6 feet^3 x 1,050 Btu/feet^3 x 12,460 dscf/10^6 Btu = 13.1 x 10^6 dscf (5.3)

4) Determine the grain loading per cubic foot of flue gas:

5 lb PM x 7,000 gr/lb x 1/13.1 x 10^6 dscf = 0.003 gr/dscf < 0.015 gr/dscf (5.4)

Emissions factors given in AP-42 are generally accepted as conservative estimates. Even a conservative estimate of emissions from natural gas combustion results in an approximated grain loading well below the standard of 0.015 gr/dscf. Therefore, as long as the permittee is in compliance with Permit Condition 5.5, the permittee is in compliance with the grain-loading standard.

6.8 EMISSIONS UNIT 6 - WET PROCESS PHOSPHORIC ACID PLANT

6.8.1 Emissions Unit Description

At the Phosphoric Acid Plant, the rock is fed, along with water, sulfuric acid, and recycle acid, into a series of seven cells-the first five being "reactors" and the last two being "digesters". Here the ore slurry is mixed with sulfuric acid. The chemical reaction forms a slurry of phosphoric acid (approximately 30% P_2O_5 content) and crystals of calcium sulfate known as phosphogypsum. The slurry is fed onto filters where the 30% acid is separated from the gypsum. The phosphogypsum is slurried to an impoundment, commonly referred to as a "gyp stack".

The 30% acid filtrate is the starting material for a variety of intermediate and end products. Most of the 30% acid is evaporated to 70% P_2O_5 (superphosphoric acid or "SPA"; see ER-13, Source: S-Pb-1). Minor portions of the 30% acid filtrate are marketed at lower P_2O_5 concentrations.
In the superphosphoric acid (SPA) process, 52% P_2O_5 acid from phosphoric acid production is further evaporated to a concentration of approximately 70% P_2O_5. Filtration of suspended solids and chemical oxidation of organic material are ancillary steps in SPA production.

The PPA process converts 37% (27% P_2O_5) green acid produced by the Phosphoric Acid Plant to 85% (61% P_2O_5) food-grade PPA with a solvent extraction process. A description of the PPA process is included below with discussion of air pollutant emissions and control devices:

1) Acid Evaporation - Incoming feed phosphoric acid is evaporated to 52% P_2O_5 in equipment similar to Phosphoric Acid Plant evaporators. All wet phosphoric acid-containing tankage, in this and the next process steps, is vented to the Conditioning Vent Scrubber to capture fluoride emissions.

2) Desulfating - Concentrated phosphoric acid is reacted with additional phosphate ore to reduce sulfate concentrations as needed to meet product acid specifications. The desulfated clarified acid is filtered on a rotary vacuum drum filter. The clarifier sludge is filtered on a belt filter. The two filtrates are combined to feed the next step. Filter aid required will be stored in a bin equipped with a bin vent baghouse to capture particulate emissions during unloading.

3) Sulfiding - Desulfated acid is reacted with a solution of sodium hydrosulfide to remove arsenic and cadmium as sulfides. The sulfided acid is filtered on a horizontal spinning leaf pressure filter. Cake from the filtration will be disposed off-site at an appropriate facility. Required filter aid is stored in a bin equipped with a bin vent baghouse to capture particulate emissions during unloading. A sulfiding vent scrubber is provided to scrub H_2S and small amounts of HF released from the reactor and acid holding tanks prior to solvent extraction. Sulfides in the scrubbing solution are converted to sulfates (using hydrogen peroxide) and the resulting liquor is used for its caustic value in a neutralization sump.

4) Solvent Extraction - The PPA process includes a three-step solvent extraction process to purify phosphoric acid using tributyl-phosphate (TBP) and kerosene as the solvent. This solvent has a high boiling point and low solubility in aqueous streams. There are two aqueous streams exiting this step, product phosphoric acid, and a fertilizer feedstock, which is used in ammonium phosphate production. The only air emissions from this process are solvent vapors released from tankage and process equipment. The air emissions are expected to be quite small because of the extremely low solvent vapor pressures at these temperatures and because the tankage is generally under level control.

5) Product Evaporation and Polishing - After solvent extraction, the acid must be evaporated to 85% phosphoric acid for shipping. Fluorides are stripped from the acid during evaporation but are captured in barometric condensers. The process condensate tank is vented to the fluoride scrubber. Product acid after evaporation is treated with hydrogen peroxide to meet final specifications.

6) Utilities and Storage Tankage - Tank farms are used for feed acid storage, fertilizer feed stock and product acid.

Emissions Reference #	Source Code	Source Name
ER-17	**S-PA-1**	**PHOSPHORIC ACID PLANT**
	A-Pa-1	Multi-stage horizontal cross-flow scrubber
	P-Pa-1	Exhaust stack from A-Pa-1
ER-13	**S-PB-1**	**SUPERPHOSPHORIC ACID PROCESS**
	A-Pb-1	Multi-stage horizontal cross-flow scrubber
	P-Pb-1	Exhaust stack from A-Pb-1
ER-20	**S-PA-2A & S-PA-2B**	**THERMAL FLUID HEATERS**
	A-Pa-2a	S-Pa-2a is equipped to control O_2 in combustion air.
	P-Pa-2a	Exhaust stack from S-Pa-2a
	P-Pa-2b	Exhaust stack from S-Pa-2b
ER-25	**S-Pp-1**	**PURIFIED PHOSPHORIC ACID PLANT (PPA)**
	A-Pp-1	Sulfiding vent scrubber (TAG. No. CP-4535101)
	P-Pp-1	Exhaust stack from A-Pp-1
	A-Pp-2	Filter aid silo baghouse (TAG. No. CP-5136101)
	P-Pp-2	Exhaust stack from A-Pp-2
	A-Pp-3	Conditioning vent scrubber (TAG. No. CP-4536101)

P-Pp-3	Exhaust stack from A-Pp-3

6.8.2 Permit Requirement - Fluoride Emissions - 40 CFR 63, Subpart AA

The National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing Plants applies to certain equipment and processes at a phosphoric acid manufacturing plant. The applicable processes and equipment include:

- Wet-process phosphoric acid process line,
- Evaporative cooling tower,
- Superphosphoric acid process line, and
- Purified acid process line.

All equipment is subject to the standards for new sources as it was installed or modified in 2000, after the standard was promulgated. The fluoride standard for new wet-process phosphoric acid process lines is 6.75 grams of total fluorides per metric ton of equivalent P_2O_5 feed (0.0135 lb/ton). The fluoride standard for new superphosphoric acid process lines is 4.35 grams of total fluorides per metric ton of equivalent P_2O_5 feed (0.0087 lb/ton). The operational requirement for evaporative cooling towers is a restriction on introducing liquid effluent from any wet scrubbing device.

The recently promulgated MACT standards for PPA plants require owners to implement Part 63, Subpart H, Leak Detection and Repair Program to minimize emissions of MIBK. However, Nu-West's PPA process does not use MIBK, or any other HAP as defined in Section 112 of the Clean Air Act, so the subpart does not apply to the PPA plant.

Compliance Demonstration

Operating, monitoring, and recordkeeping requirements that demonstrate compliance with the standard are provided in the NESHAP. The requirements have been included in the permit.

Permit Requirement - Nitrogen Oxide Emissions

The PTC for the wet process phosphoric acid process line (PTC No.029-00003, issued July 12, 2000), limits emissions of NO_x from the superphosphoric acid oxidation process to 0.045 pounds per ton of equivalent P_2O_5 feed and five tons per year.

Compliance Demonstration

The permittee must perform a NO_x compliance test.

Permit Requirement - Radon Emissions from Phosphogypsum Stacks

Radon emissions from the "gyp stack" are regulated by 40 CFR 61 Subpart H. Phosphogypsum is the solid waste byproduct that results from the process of wet acid phosphorus production. Phosphogypsum stacks are piles of waste resulting from wet acid phosphorus production.

Compliance Demonstration

Monitoring and compliance procedures for stacks are provided in 40 CFR 61 Subpart H and have been included in the permit. If Nu-West wishes to remove phosphogypsum from the stacks, they must comply with the monitoring and recordkeeping requirements in 40 CFR 61.204-208. Recordkeeping requirements for inactive stacks are in 40 CFR 61.209 and have been included in the permit.

Permit Requirement - Process Weight Limitations

The Wet Process Phosphoric Acid Plant was constructed in 2000. Therefore it is a "new" source and must comply with the particulate matter standard for new sources in IDAPA 58.01.01.701.

Compliance Demonstration

The permittee will conduct an EPA Method 5 source test to determine emissions of particulate matter from each part of the Wet Process Phosphoric Acid Plant. The process weight measured during the source test will be used in an equation from Permit Condition 6.5 to determine an allowable emissions rate.

6.9 EMISSIONS UNIT 7 - EXPERIMENTAL SILICA PLANT

6.9.1 Emissions Unit Description

The Experimental Silica Extraction Plant was designed to produce high purity synthetic silica. However, the facility has not operated on a production scale. During calendar year 1994, it remained idle. Emissions estimates are approximated from engineering calculations. (See Appendix A of PTC No.029-0003.)

This process is experimental and not intended to operate indefinitely. Nu-West requests that this emissions unit be covered by the Tier I operating permit for the first permit term, although this emissions unit may not exist at the time of the renewal of the Tier I permit.

Emissions Reference #	Source Code	Source Name
ER-18	S-Si-1	Experimental Silica Plant
	A-Si-1a	Venturi Scrubber (wet, Phosphoric Acid)
	A-Si-1b	Venturi Scrubber (water)
	P-Si-1	Exhaust stack from A-Si-1a and A-Si-1b

Stack Parameters

Height:	45 feet
Diameter:	0.5 feet
Flow Rate:	235 acfm
Temperature:	120 °F

Equipment Specifications

Ammonia Scrubber: Schutte and Koerting Model No. 88-36V
Fluoride Scrubber: Schutte and Koerting Model No. 66-36V

Permit Requirement - Fluoride Emissions

The PTC for the experimental silica plant (No.0029-0003, issued August 7, 1992) limits fluoride emissions from the process to 0.011 lb/hr and 0.046 T/yr.

Compliance Demonstration

Appendix A of the PTC says that compliance with the hourly emission limit will be *"...determined by design calculation provided by the company and verified during the permit analysis."* Compliance with the annual limit is determined by multiplying the actual or allowable emissions rate by the allowable hours per year that the process may operate.

Permit Requirement - Ammonia Emissions

The PTC for the experimental silica plant (No.0029-0003, issued August 7, 1992) limits ammonia emissions from the process to 0.00066 lb/hr and 0.0028 T/yr.

Compliance Demonstration

Appendix A of the PTC says that compliance with the hourly emission limit will be *"...determined by design calculation provided by the company and verified during the permit analysis."* Compliance with the annual limit is determined by multiplying the actual or allowable emissions rate by the allowable hours per year that the process may operate.

Permit Requirement - Process Weight Limitations

The experimental silica plant was constructed in 1992. Therefore it is a "new" source and must comply with the particulate matter standard for new sources in IDAPA 58.01.01.701.

Compliance Demonstration

The permittee will conduct an EPA Method 5 source test to determine emissions of particulate matter from the experimental silica plant. The process weight measured during the source test will be used in an equation from Permit Condition 7.2 to determine an allowable emissions rate.

6.10 EMISSIONS UNIT 8 - CLEAVER-BROOKS BOILER

6.10.1 Emissions Unit Description

The Cleaver-Brooks boiler is a 180 MMBtu/hr, natural gas-fired, low-NO_x package boiler that supplies steam to the PPA plant.

Emissions Reference #	Source Code	Source Name	Model
ER-26	A-Cb-1	Cleaver-Brooks Boiler	DFE-132 IWT (TAG No. CP-5536601)
	P-Cb-1	Exhaust stack from A-Cb-1	

Permit Requirement - Nitrogen Oxide Emissions

Nitrogen oxide emissions were limited to 33 T/yr in the PTC to keep emissions below the significant threshold.

6.10.2.1 Compliance Demonstration

The permittee monitors NO_x emissions using a continuous NO_x monitor that is required per 40 CFR 60, Subpart Db.

Permit Requirement - Nitrogen Oxide Emissions - 40 CFR 60 Subpart Db

The Cleaver-Brooks boiler was installed in 2000 and is subject to the New Source Performance Standards in Subpart Db because construction commenced after June 19, 1984, and the heat input capacity is greater than 100 MMBtu/hr.

The sulfur dioxide and particulate matter standards in Subpart Db do not apply to the Cleaver-Brooks boiler because it is fueled exclusively by natural gas. The only applicable standard is that for nitrogen oxide at 40 CFR 60.44b.

Subpart A requirements are included in the permit. The subparts included are:

- 60.4—Address
- 60.7—Notification and recordkeeping
- 60.8.1—Performance tests
- 60.11(d),(g)—Compliance with standards and maintenance requirements
- 60.12.1—Circumvention
- 60.13(a),(b),(d),(e),(f),(h),(i),(j) —Monitoring (Some monitoring requirements in 60.13 apply specifically to opacity limits, which do not apply, so they were not included in this permit.)

6.10.3.1 Compliance Demonstration

Operating, monitoring, and recordkeeping requirements that demonstrate compliance with the standard are provided in the NSPS Subpart. The requirements have been included in the permit.

6.10.4 Permit Requirement – Fuel Burning Equipment – Particulate Matter

The standard for new fuel-burning equipment is applicable to the Cleaver-Brooks boiler because it was installed in 2000.

6.10.4.1 Compliance Demonstration

It is proposed that compliance with the particulate matter standard be assumed provided that only natural gas is combusted. According to AP-42, Section 1.4, from one-to-five pounds of particulate is generated per million cubic feet ($lb/10^6$ scf) of natural gas combusted in large industrial boilers (>100 MMBtu/hr). Also, according to 40 CFR 60, Appendix A, Method 198, approximately 8,710 dscf of flue gas at standard conditions (68° F, 29.92 inches of mercury [Hg]) is created per million Btus of natural gas. This data is used in the following steps to demonstrate that particulate emissions from the combustion of natural gas will always be less than the particulate matter standard of 0.015 gr/dscf.

To correct the flue gas volume:

1) For an altitude of 5500 feet, the altitude of Soda Springs:
(per IDAPA 58.01.01.680)

   Subtract 0.10 x 55.00 = 5.500 inches Hg from standard atmospheric pressure at sea level

   29.92 inches Hg – 5.500 inches Hg = 24.42 inches Hg

2) Using the Ideal Gas Law and knowing that n, R, and T will be the same,

$$V_2 = \frac{P_1 V_1}{P_2} \qquad (5.1)$$

where,
V_2 = the gas volume corrected for altitude,
V_1 = the known gas volume (8710 dscf),
P_1 = the pressure of the known gas volume (29.92 inches Hg)
P_2 = the pressure of the corrected gas volume (24.42 inches Hg).

The altitude corrected volume (V_2) of the flue gas is 10670 dscf.
For 3% oxygen:
using a standard correction ratio as presented in 40 CFR 60, Appendix A, Method 19,

$$F_2 = F_1 \times \frac{20.9}{20.9 - 3.0} \qquad (5.2)$$

where,
F_2 = the gas volume corrected to 3% oxygen,
F_1 = the altitude corrected flue gas volume (10,670 dscf) as calculated in Equation (5.1).

The oxygen and altitude corrected volume (F_2) of the flue gas is 12,460 dscf per million Btu of natural gas.

3) Determine the volume of flue gas created by the combustion of one million cubic feet of natural gas:

10^6 feet^3 x 1,050 Btu/feet^3 x 12,460 dscf/10^6 Btu = 13.1 x 10^6 dscf (5.3)

4) Determine the grain loading per cubic foot of flue gas:

5 lb PM x 7,000 gr/lb x 1/13.1 x 10^6 dscf = 0.003 gr/dscf < 0.015 gr/dscf (5.4)

Emission factors given in AP-42 are generally accepted as conservative estimates. Even a conservative estimate of emissions from natural gas combustion results in an approximated grain loading well below the standard of 0.015 gr/dscf. Therefore, as long as the permittee is in compliance with Permit Condition 5.5, the permittee is in compliance with the grain-loading standard.

7. INSIGNIFICANT ACTIVITIES

Referenced below are the insignificant activities described by the source in accordance with IDAPA 58.01.01.317.01.b.i:

Table 7.1: INSIGNIFICANT ACTIVITIES

Description	Insignificant Activities Citation (IDAPA 58.01.01.317.01.b.i)
• One 2,000 gallon gasoline storage tank • One 250 gallon diesel fuel storage tank • Three 500 gallon portable diesel fuel storage tanks • One 1,000 gallon diesel fuel storage tank • One 2,000 gallon diesel fuel storage tank • One 1,200 gallon diesel fuel storage tank • One 500 gallon 10W oil storage tank • One 250 gallon 30W oil storage tank • One 500 gallon 30W oil storage tank • One 250 gallon antifreeze storage tank • One 1,900 gallon used oil storage tank • One 10,000 gallon dust suppressant storage tank • One 17,000 gallon dust suppressant storage tank	3
• One 250 gallon propane storage tank • Two 500 gallon propane storage tanks	4
Combustion sources, less than 5 MMBtu/hr, exclusively using natural gas, butane, propane, and/or LPG	5
Welding not using more than 1 T/day of welding rod	9
A water cooling tower is used to cool the process steam at the sulfuric acid plant (indirect cooling)	13
An industrial water chlorination system utilizing compressed chlorine gas with a daily maximum treatment capacity engineered for 576,000 gpd	16
Space heaters and hot water heaters using natural gas, propane, or kerosene and generating less than 5 MMBtu/hr	18
Tanks and pumping equipment for storage and dispensing of acids not greater than 99% H_2SO_4 or H_3PO_4 exist at the facility	19
Therminol® 55 Heat Transfer Fluid is the HBPOM used at the facility. (Boiling range: 335°C to 390°C at 760 mm. Reid vapor pressure: 0.16 psi at 100°F.)	20
Rolling of cold metal not exceeding 48 in. wide and ½ in. thick	23
Two Hartzell natural gas-fired building air heaters rated at 5.2 MMBtu/hr	30
Ore unloading and transfer (F-Oa-1)	30
Ore storage to Wash Plant (F-Ob-1)	30
Wash Plant and Grinding Mills (S-W-1, S-W-2)	30

Appendix B contains supporting documentation for the insignificant activity designations. A list of all insignificant emissions units can be found in supplements C, D, and E to Section III of the Tier I application.

8. ALTERNATIVE OPERATING SCENARIOS

The permittee did not request any alternative operating scenarios.

9. TRADING SCENARIOS

The permittee did not request any trading scenarios.

10. COMPLIANCE PLAN AND COMPLIANCE CERTIFICATION

10.1 COMPLIANCE PLAN

Nu-West certified they are in compliance with all NSPS and MACT requirements as of the date of the Tier I application (Third Amended Version, January 9, 2002). Therefore, a compliance plan was not included.

10.2 COMPLIANCE CERTIFICATION

In Section 5A of the Tier I application (Third Amended Version), Nu-West certified compliance for all identified applicable requirements.

11. BEST AVAILABLE RETROFIT TECHNOLOGY (BART)

The requirements for BART are found under the regional haze rule in 40 CFR 51.308.

The Agrium East Sulfuric Acid Plant meets the definition of a BART-eligible source since it also meets the definition of an "existing stationary facility" as defined in 40 CFR 51.301 (see below). This determination is based upon the following:

- A sulfuric acid plant is one of the stationary source categories listed in the definition of "existing stationary facility."
- The Title V Tier I operating permit application (dated April 1, 1999) indicates the plant was installed or last modified in 1974. Therefore, it is concluded that the plant was not in operation prior to August 7, 1962, but that it was in existence on August 7, 1977.
- The most recent PTC dated April 27, 2000 issued for the East Sulfuric Plant has a limit of 945 T/yr of SO_2, which is greater than 250 T/yr.

There are no requirements for BART at this time. Requirements may be included in Idaho's regional haze implementation plan when submitted to the EPA.

11.1 Regional Haze Program Requirements -40 CFR 51.308

"(a) What is the purpose of this section? This section establishes requirements for implementation plans, plan revisions, and periodic progress reviews to address regional haze.

(b) When are the first implementation plans due under the regional haze program? Except as provided in paragraph (c) of this section and 40 CFR 51.309(c), each State identified in 40 CFR 51.300(b)(3) must submit an implementation plan for regional haze meeting the requirements of paragraphs (d) and (e) of this section by the following dates:

(1) For any area designated as attainment or unclassifiable for the national ambient air quality standard (NAAQS) for fine particulate matter ($PM_{2.5}$), the State must submit a regional haze implementation plan to EPA within 12 months after the date of designation.

(2) For any area designated as nonattainment for the $PM_{2.5}$ NAAQS, the State must submit a regional haze implementation plan to EPA at the same time that the State's plan for implementation of the $PM_{2.5}$ NAAQS must be submitted under section 172 of the CAA, that is, within 3 years after the area is designated as nonattainment, but not later than December 31, 2008."

11.2 BART Requirements - 40 CFR 51.308(e)

"(e) Best Available Retrofit Technology (BART) requirements for regional haze visibility impairment. The State must submit an implementation plan containing emission limitations representing BART and schedules for compliance with BART for each BART-eligible source that may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area, unless the State demonstrates that an emissions trading program or other alternative will achieve greater reasonable progress toward natural visibility conditions.

(1) To address the requirements for BART, the State must submit an implementation plan containing the following plan elements and include documentation for all required analyses:

(i) A list of all BART-eligible sources within the State.

(ii) A determination of BART for each BART-eligible source in the State that emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I Federal area. All such sources are subject to BART. This determination must be based on the following analyses:

(A) An analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each BART-eligible source within the State subject to BART. In this analysis, the State must take into consideration the technology available, the costs of compliance, the energy and nonair quality environmental impacts of compliance, any pollution control equipment in use at the source, and the remaining useful life of the source; and

(B) An analysis of the degree of visibility improvement that would be achieved in each mandatory Class I Federal area as a result of the emission reductions achievable from all sources subject to BART located within the region that contributes to visibility impairment in the Class I area, based on the analysis conducted under paragraph (e)(1)(ii)(A) of this section.

(iii) If the State determines in establishing BART that technological or economic limitations on the applicability of measurement methodology to a particular source would make the imposition of an emission standard infeasible, it may instead prescribe a design, equipment, work practice, or other operational standard, or combination thereof, to require the application of BART. Such standard, to the degree possible, is to set forth the emission reduction to be achieved by implementation of such design, equipment, work practice or operation, and must provide for compliance by means which achieve equivalent results.

(iv) A requirement that each source subject to BART be required to install and operate BART as expeditiously as practicable, but in no event later than five years after approval of the implementation plan revision.

(v) A requirement that each source subject to BART maintain the control equipment required by 40 CFR 51.300 and establish procedures to ensure such equipment is properly operated and maintained.

(2) A State may opt to implement an emissions trading program or other alternative measure rather than to require sources subject to BART to install, operate, and maintain BART. To do so, the State must demonstrate that this emissions trading program or other alternative measure will achieve greater reasonable progress than would be achieved through the installation and operation of BART. To make this demonstration, the State must submit an implementation plan containing the following plan elements and include documentation for all required analyses:

(i) A demonstration that the emissions trading program or other alternative measure will achieve greater reasonable progress than would have resulted from the installation and operation of BART at all sources subject to BART in the State. This demonstration must be based on the following:

(A) A list of all BART-eligible sources within the State.

(B) An analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each source within the State subject to BART. In this analysis, the State must take into consideration the technology available, the costs of compliance, the energy and nonair quality environmental impacts of compliance, any pollution control equipment in use at the source, and the remaining useful life of the source. The best system of continuous emission control technology and the above factors may be determined on a source category basis. The State may elect to consider both source-specific and category-wide information, as appropriate, in conducting its analysis.

(C) An analysis of the degree of visibility improvement that would be achieved in each mandatory Class I Federal area as a result of the emission reductions achievable from all such sources subject to BART located within the region that contributes to visibility impairment in the Class I area, based on the analysis conducted under paragraph (e)(2)(i)(B) of this section.

(ii) A demonstration that the emissions trading program or alternative measure will apply, at a minimum, to all BART-eligible sources in the State. Those sources having a federally enforceable emission limitation determined by the State and approved by EPA as meeting BART in accordance with 40 CFR 51.302(c) or paragraph (e)(1) of this section do not need to meet the requirements of the emissions trading program or alternative measure, but may choose to participate if they meet the requirements of the emissions trading program or alternative measure.

(iii) A requirement that all necessary emission reductions take place during the period of the first long-term strategy for regional haze. To meet this requirement, the State must provide a detailed description of the emissions trading program or other alternative measure, including schedules for implementation, the emission reductions required by the program, all necessary administrative and technical procedures for implementing the program, rules for accounting and monitoring emissions, and procedures for enforcement.

(iv) A demonstration that the emission reductions resulting from the emissions trading program or other alternative measure will be surplus to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP.

(v) At the State's option, a provision that the emissions trading program or other alternative measure may include a geographic enhancement to the program to address the requirement under 40 CFR 51.302(c) related to BART for reasonably attributable impairment from the pollutants covered under the emissions trading program or other alternative measure.

(3) After a State has met the requirements for BART or implemented emissions trading program or other alternative measure that achieve more reasonable progress than the installation and operation of BART, BART-eligible sources will be subject to the requirements of paragraph (d) of this section in the same manner as other sources.

(4) Any BART-eligible facility subject to the requirement under paragraph (e) of this section to install, operate, and maintain BART may apply to the Administrator for an exemption from that requirement. An application for an exemption will be subject to the requirements of 40 CFR 51.303(a)(2) through (h)."

12. AIRS DATABASE

AIRS/AFS FACILITY-WIDE CLASSIFICATION DATA ENTRY FORM

Air Pollutant							
SO_2	A	A				A	A
NOx	A	A				A	A
CO	A	A				A	A
PM_{10}	A	A				A	A
PT (Particulate)	A	A			NO	A	U
VOC	B	B				B	U
THAP (Total HAPs)	A					A	
Sulfuric acid mist	SM	A				SM	
Fluoride	SM	A				SM	
Ammonia (NH_3)	SM						
H_2S	SM	SM				SM	
VOC/HAP	ND	ND	ND	ND	ND	ND	

H504 P

AIRS/AFS CLASSIFICATION CODES:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 ton-per-year (T/yr) threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.
SM = Potential emissions fall below applicable major source thresholds **if and only** if the source complies with federally enforceable regulations or limitations.
B = Actual and potential emissions below all applicable major source thresholds.
C = Class is unknown.
ND = Major source thresholds are not defined (e.g., radionuclides).

13. REGISTRATION FEES

This facility is a major facility as defined by IDAPA 58.01.01.008.10; therefore, registration and registration fees, in accordance with IDAPA 58.01.01.387 apply.

14. RECOMMENDATION

Based on the Tier I application and review of the federal regulations and state rules, staff recommends that DEQ issue final Tier I Operating Permit No. 029-00003 to Nu-West for the Conda facility.

ZK/sd **Project No. T1-9503-036-1** G:\Air Permits\T 1\NuWest Agrium\EPA Review\Agrium EPA TM.doc

cc: AQ Program, Air Quality Division
Tiffany Floyd, Pocatello Regional Office
Zach Klotovich, State Office of Technical Services
Laurie Kral, EPA Region 10
Source File (029-00003)
COF

Appendix A

EMISSIONS ESTIMATES

AIRS FACILITY NO. 029-00003

NU-WEST INDUSTRIES, CONDA

Expansion Project Emissions (tpy)			Shaded sources emit at average of '97 or '98				
AOP Identification			Annual Emissions (				
Emis.	Source	Existing Source Descriptions	PM	PM10	SO_2	NOx	VOC
ER-1	F-Oa-1 *	Ore Unloading & Storage	0.11	0.05			
ER-2	F-Ob-1 *	Ore Storage to Wash Plant (phosphate)	0.11	0.05			
[illegible]			[illegible]	[illegible]			
ER-10	S-Pa-1, S-Pa-2	[illegible]	2.1	2.1			
ER-11	S-Fa-1, S-Fa-2, S-Fa-3 *	Granulation Plant **	28	28	< assumed PM average of 97/98		
		Urea Storage Beghouse	0.2	0.2			
[illegible]			[illegible]	[illegible]			
ER-13	S-Pb-1 *	Super Acid Filtration	1.75	1.75			
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ER-17	S-Pa-1 *	Phosphoric Acid Plant **	17.5	17.5			
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ER-21	S-Ic-1	Coal Combustion in Stackers			1.4	21.5	
ER-22	F-Op-1	Ore piles -Fugitive PM	0.09	0.04			
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		** Reduction in emissions due to new scrubbers					
		Subtotal	146	118	731	79	4
	TAG No.:	New Source Description	PM	PM10	SO_2	NOx	VOC
	CP-4535101	Sulfiding Vent Scrubber (H2S)					
	CP-5136101	Filter Aid Silo	2.10	2.10			
	CP-5136202	FFS Tank vent					0.03
	CP-5104004	FFS Tank vent					0.03
	CP-5136203-208	Mixer-Settlers					1.50
	CP-5136211	Stripped Solvent Tank					0.21
	5136216	Scrubbed solvent tank vent					0.60
	5136217, 5136218	Both FFS tank vents					0.04
	CP-5136609	Oil-water sewer					0.07
	CP-5436201	Extraction Column vent					1.32
	CP-5436210	Stripper Column vent					1.15
	5436301 thru 3	Solvent wash settlers 1 thru 3					0.15
		Purified Acid Tank					0.10
	CP-4536101	Conditioning Vent Scrubber (F)					
	5436202 thru 7	Settler vents 1 thru 6					1.56
	CP-5536601	Package Boiler at 8,760 hours/year	7.6	7.6	0.8	37.8	6.0
	CP-3136602	Cooling Tower	2.1	2.1			
	CP-4136414	Firewater Diesel Pump	0.1	0.1	0.1	0.7	0.2
	CP-5136608	300 gal diesel tank					0.1
		New Source Subtotal	12	12	1	39	13
	24-Sep-99	Total, Existing and New Sources	158	130	732	118	17

Expansion Project Emission Factors

AOP Identification			Emission Factors (lb/ton or lb					Emission Factc
Emis.	Source	Existing Source Description	PM	PM_{10}	SO_2	NOx	VOC	CO
ER-11	S-Fa-1, S-Fa-2, S-Fa-3	Granulation Plant: PM lb/hr, F lb/ton feed **	13.15	13.15	<based on 1997 emissions			
		Urea Storage Baghouse	0.05	0.05				
ER-13	S-Pb-1 *	Super Acid Filtration: PM lb/hr, F lb/ton feed **	0.400	0.400				
ER-17	S-Pa-1 *	Phosphoric Acid Plant: PM lb/hr, F lb/ton feed **	4.00	4.00				

Reduction in emission rates due to new scrubbers

	TAG No.:	New Source Description (all lb/hr)	PM	PM10	SO_2	NOx	VOC	CO
	CP-4535101	Sulfiding Vent Scrubber (H2S)						
	CP-5136101	Filter Aid Silo	0.5	0.5				
	CP-5136202	FFS Tank vent					0.01	
	CP-5104004	FFS Tank vent					0.01	
	CP-5136203-208	Mixer-Settlers					0.38	
	CP-5136211	Stripped Solvent Tank					0.05	
	5136216	Scrubbed solvent tank vent					0.15	
	5136217, 5136218	Both FFS tank vents					0.01	
	CP-5136609	Oil-water sewer					0.02	
	CP-5436201	Extraction Column vent					0.33	
	CP-5436210	Stripper Column vent					0.29	
	5436301 thru 3	Solvent wash settlers 1thru 3					0.04	
		Purified acid tank					0.03	
	CP-4536101	Conditioning Vent Scrubber (F)						
	5436202 thru 7	Settler vents 1 thru 6					0.18	
	CP-5536601	Package Boiler	1.8	1.8	0.18	9.0	1.44	18.0
	CP-3136602	Cooling Tower	0.5	0.5				
	CP-4136414	Firewater Diesel Pump	0.5	0.5	0.3	2.9	0.6	2.8
	CP-5136608	300 gal diesel tank					0.02	
		New Source Subtotal	3	3	0.5	12	4	21

Appendix B

INSIGNIFICANT EMISSIONS UNITS

AIRS FACILITY NO. 029-00003

Nu-West Industries, Conda

SUPPORTING DOCUMENTATION FOR INSIGNIFICANT ACTIVITIES LISTED IN IDAPA 58.01.01. 317.01.B.

(3) The following atmospheric aboveground storage tanks are loaded and unloaded at the facility:

Atmospheric Aboveground Storage Tanks		
Number	Capacity (in gallons)	Stored Material
1	2,000	Gasoline
1	250	Diesel fuel
3	500	Diesel fuel (portable)
1	1,000	Diesel fuel
1	2,000	Diesel fuel
1	1,200	Diesel fuel
1	500	10W oil
1	250	30W oil
1	500	30W oil
1	250	Antifreeze
1	1,900	Used oil
1	10,000	Class III dust suppressant
1	17,000	Class III dust suppressant

(4) The following propane storage tanks are loaded and unloaded at the facility:

Propane Storage Tanks		
Number	Capacity (in gallons)	Stored Material
1	250	Propane
2	500	Propane

(5) The following combustion sources operated at the facility use less than five million (5,000,000) Btu/hr:

Building Heaters (that are less than 5,000,000 Btu/hr)			
Number	Rating	Brand/Description	Model
1	325,000 (est.)	Aerovent air heater	4218D
4	325,000	Aerovent door air heaters	N248B
3	3,750,00	Aerovent air makeup units	G490BD
1	75,000	Advanced Dist. Products	HEP-75-S-1
1	100,000 (est.)	Caffers	
1	10,000	Dearborn	DWC-10-N
1	400,000	Duct furnace	SD-400E
1	60,000	Enerco	8060
1	75,000	Gaffers & Stattler	75-UP-5
1	100,000	Gaffers & Stattler	100-UF-5
1	200,000	Gaffers & Stattler	200-UF-A
1	250,000	Gaffers & Stattler	225-UF-A
2	1,500,00	Hartzell	G152
1	50,000	Lennox	LF-24-50-S-1
1	110,000	Lennox	G11-110
1	137,000	Lennox	LF2-137
1	165,000	Lennox	G12Q5E-165-10
1	200,000 (est.)	Lennox	
1	220,000	Lennox	LF2-220
2	250,000	Lennox	LF-250A-M
3	300,000	Lennox	LF24-300S-1
1	50,000	Modine	PA50AF
1	105,000	Modine	PA105AB
1	180,000	Modine	PA200A
1	225,000	Modine	PA225AB
2	250,000	Modine	PA250AC
1	300,000	Modine	PA300AC
2	350,000	Modine	PA350AB
1	50,000	Perfection/Schwank	JC50
1	100,000 (est.)	Reznor	
1	600,000	Ultramatic XI (portable)	
1	175,000		SGF
1	130,000 (LPG)		DR-130N-SP-4

Comfort Air Furnaces for Offices/Control Rooms (that use less than 5,000,000 Btu/hr)			
Number	Btu/hr	Brand/Description	Model
1	150,000	Day & Night	150UA
1	180,000	Day & Night	180UA
1	225,000	Janitrol	20-225
4	100,000	Lennox Pulse 21	G21Q4/5-100-3

Water Heaters (that use less than 5,000,000 Btu/hr)			
Number	Btu/hr	Brand/Description	Model
4	32,000	A.O. Smith	FSG 40
1	40,000	A.O. Smith	FSG 50
2	80,000	A.O. Smith	BT 100
1	270,000	A.O. Smith	BT 270

Steam Cleaners (that use less than 5,000,000 Btu/hr)			
Number	Btu/hr	Brand/Description	Model
1	350,000 (est.)(LPG)	Alkota	X126668
1	350,000	Hotsy	00881E
1	350,000	Hotsy	940A

(6) Welding is an ongoing activity at the facility, but does not use more than one ton of welding rod per day.

(7) A water-cooling basin is used to cool the process stream at the Sulfuric Acid Plant (indirect cooling). It does not:

- Use chromium-based corrosion inhibitors, barometric jets, or condensers;
- Exceed 10,000 gpm; and
- Come in direct contact with gaseous or liquid process streams containing regulated air pollutants.

(16) An industrial water chlorination system utilizing compressed chlorine gas with a daily maximum treatment capacity engineered for 576,000 gallons per day is operated onsite.

(18) Space heaters and water heaters generating less than five million Btu/hr (see above).

(19) The facility houses tanks and pumping equipment for storage and dispensing of acids not greater than 99% H_2SO_4 or H_3PO_4. All H_2SO_4 is stored, pumped, and dispensed at strengths of 93% and 98%. All H_3PO_4 is stored, pumped, and dispensed at strengths of 39% to 97%.

(20) The facility houses lidded (or other appropriate closure) equipment used exclusively to pump, load, unload, or store high boiling point organic material that has an initial boiling point less than 150° C or vapor pressure not more than 5 mm Hg at 21°C. Therminol ® 55 Heat Transfer Fluid is the HBPOM used at the facility. (Boiling range: 335°C to 390°C at 760 mm. Reid vapor pressure: 0.16 psi at 100°F.)

(23) The facility performs rolling of cold metal not exceeding 48 inches wide and 1/2 inches thick.

(30) In reference to (18) above, two existing building air heaters are rated at 5,200,000 Btu/hr. They are Hartzell model G-402-FIA air heaters that use open-flame combustion and propeller-type fans to heat outside air and pull the heated air inside the building. The actual Btu "generation" (vs. "input"), as stated at (18) above, would be estimated at less than 5,000,000 Btu.

Appendix C

RESPONSE TO PUBLIC COMMENTS

AIRS FACILITY NO. 029-00003

Nu-West Industries, Conda

Response to Public Comments
Submitted During the Public Comment Period
for the Nu-West Industries, Inc. Tier I Operating Permit
AIRS Facility No. 029-00003

A public comment period was held from May 16, 2002 through June 16, 2002 to let any interested party review and comment on the draft Tier I operating permit prepared by the Department for the Nu-West Industries, Inc. facility. In accordance with IDAPA 58.01.01.364 (*Rules for the Control of Air Pollution in Idaho*), *"all Tier I operating permit proceedings shall provide for public notice and public comment, including offering an opportunity for a hearing, on a draft permit or on a draft denial."* Copies of the draft permit and technical memorandum were made available at the Soda Springs Public Library, the Department's Pocatello Regional Office, and the Department's State Office in Boise. The states of Wyoming and Utah are affected states, and as such, the Department also provided a copy of the public comment package for their review and comment. Affected states are defined in IDAPA 58.01.01.008.01 as: *"All states whose air quality may be affected by the emissions of the Tier I source and that are contiguous to Idaho or that are within 50 miles of the Tier I source."*

The only party that provided comments during the public comment period was Nu-West Industries, Inc. This document provides the Departments response to the comments submitted. Each comment is listed with the Departments response immediately following.

Nu-West Industries, Inc. Comments on Draft Permit No. 029-0003

Comment No. 1

Condition 1.15, Table 1.2 delete PM_{10} because no testing is required, plus 201/202 is not an approved method in rules for PM_{10} testing. See tech memo 5.1.10.2 confirms that Method 5 is the reference method for PM/PM_{10}.

Response to Comment No. 1

Table 1.2 in Condition 1.15 of the permit was not changed. As given by IDAPA 58.01.01.157.02.c, the Department will accept the methods approved for the applicable pollutants, source type and operating conditions found in 40 CFR Parts 51, 60, 61, and 63. This includes Methods 201/202. Section 5.1.10.2 of the tech memo was changed accordingly.

The definition of PM_{10} includes both the filterable particulate matter and condensible particulate matter. Compliance with a PM_{10} emission limit is typically demonstrated using EPA Test Methods 201.a and 202 unless the facility demonstrates that there is no significant release of condensibles. Although Nu-West currently has no emissions limit for PM_{10}, the facility still must not cause or significantly contribute to a violation of the NAAQS for PM_{10}. The listing of standard test methods is, therefore, appropriate for pollutants potentially released by the facility.

Comment No. 2

Condition 1.21, Part 82 does not apply to activities at the plant. All work covered by this standard is performed by off-site contractor. Therefore, this requirement should be determined to be inapplicable to the plant and deleted from the permit.

Response to Comment No. 2

The permit was not changed. The Department recognizes that the Part 82 requirements may not currently apply to the Nu-West facility. Condition 1.21 is a standard condition which is included in the permits for all Tier I facilities that are either subject to requirements under 40 CFR Part 68 at the time of permit issuance, or which could possibly become subject to those requirements at a later date. The Department has included these provisions in the permit's facility-wide section to avoid the requirement to reopen the permit if they become applicable during the permit term.

Comment No. 3

Condition 1.22 includes language that is not authorized by the underlying fugitive dust rule. Specifically the portion prohibiting fugitive emissions from being "observed leaving the property" is included in the July 12, 2000 permit (condition 1.2) but does not have any regulatory basis and is practically unenforceable. Sections 203.02 and 211.01 are not appropriate regulatory references because they do not impose this regulatory requirement on stationary sources. These rules describe prerequisites that must be met prior to issuance of permits to construct, such as the July 12, 2000 PTC, but do not impose specifically applicable requirements for inclusion in the Title V permit. In addition, the condition is unsupported by applicable regulation governing fugitive emissions. IDAPA 58.01.01.650 and 651 set forth the applicable requirements to control fugitive dust. This rule is silent about emissions leaving the property boundary. For IDEQ to impose this new requirement, the agency must first conduct rulemaking.

In addition, the requirement is practically unenforceable. Fugitive emissions may be observed moving across a property boundary, however, this observation cannot reveal precisely from where the emissions emanate. This portion of the July 12, 2000 PTC should be revised to delete this requirement and the reference should be deleted from the Tier I permit. The condition is environmentally insignificant and unsupported by regulation. Deletion of conditions from new source review permits to enable clarity in the Tier I is consistent with EPA guidance regarding use of the Title V process to address certain eligible terms in new source review permits. (See EPA White Paper dated July 10, 1995).

Response to Comment No. 3

Condition 1.22, which states that "fugitive emissions shall not be observed leaving the property boundary for a period or periods aggregating more than three minutes in any 60-minute period," is included in PTCs with fugitive dust sources when modeling is not available to demonstrate compliance with the PM_{10} NAAQS. For this reason, it was included as Condition 1.2 in the Sustaining- Expansion Project PTC dated July 12, 2000. Note that this condition could be removed from the PTC at a future date by submitting a PTC modification with sufficient modeling (including fugitive dust sources) to show compliance with the PM_{10} NAAQS (per IDAPA 58.01.01.203.02). PTC Condition 1.2 is an "applicable requirement" as defined by IDAPA 58.01.01.03.b. and, therefore, it is included in the Tier I permit as per IDAPA 58.01.01.322.03. Compliance with this requirement is determined using EPA Reference Method 22 or a Department-approved alternative. The permit was changed by deleting Condition 1.23 and indicating that the fugitive dust requirements given by Conditions 1.2, 1.3, 1.4, and 1.11 apply. Clarification of the compliance determination for fugitive dust emissions was added to the Technical Memorandum.

Comment No. 4

Condition 1.25 derives from IDAPA 751, which is no longer relevant or in use by the Department for monitoring fluoride emissions. This provision is obsolete and unnecessary to implement any federal CAA requirement. Consistent with the White Paper referred to above, this provision should be deleted from the Tier I and the regulations. Fluoride emissions limitations are imposed through the MACT standard to ensure health and environmental protection. Based upon the MACT standards governing fluoride emissions, this narrative requirement is redundant and obsolete.

Response to Comment No. 4

IDAPA 58.01.01.751 is still an applicable requirement and it was not removed from the permit. As stated by IDAPA 58.01.01.750, "the purpose of Sections 750 through 751 is to prevent the emission of fluorides such that the accumulation of fluorine in feed and forage for livestock does not exceed the safe limits specified below." Past and present exceedances in Idaho of the allowable standard for fluorides in vegetation necessitate that the rule be retained at this time. It is noted that the rule refers to allowable emissions from all sources listed in IDAPA 58.01.01.751.03, based on P_2O_5 input to the calciner operation (the beginning of the phosphoric acid manufacturing process). However, changes at the regulated facilities in Idaho have eliminated calciners as part of the production process. Calciners account for only

a fraction of the fluorides released; total plant fluoride emissions are emitted by the combination of all of the sources listed in 58.01.01.751.03. IDAPA 58.01.01.751 still applies, but it will need to be revised.

Comment No. 5

Condition 1.26 reflects 30 year old consent order and Agrium requested termination on October 24, 1973. Data has been collected for many years. As far as Nu-West knows this data is not used for any regulatory purpose and is not reviewed on a regular basis by DEQ. To date, the data collected has not revealed any exceedence of any applicable standard that can be attributed the Agrium's operations. Operation and maintenance expense for these monitors consumes valuable resources without generating any new valuable ambient air quality data. Nu-West renews its previous request to terminate the original consent order because all obligations of the order have been fulfilled and Nu-West requests deletion of permit condition because it is environmentally insignificant, unnecessary, and obsolete. Please note that DEQ's own monitoring efforts circa 1987-1989 confirmed that the air quality in the area of the monitors is acceptable. After conducting monitoring in the area near the Nu-West monitors, IDEQ relocated its monitors elsewhere and chose not to continue monitoring. Continuation of this expense for Nu-West is unreasonable and unnecessary.

Response to Comment No. 5

The requirement for ambient monitoring given in Condition 10 of the Consent Order issued on 10/24/73 remains in effect. Therefore, Condition 1.26 also will remain in from the permit.

Comment No. 6

Granulation Plant: reword footnote, change from "supercede" to "control" (tables 2.2, 4.2, 5.2, 6.2, 8.2).

Response to Comment No. 6

The tables in the permit were changed as noted in the comment.

Comment No. 7

Condition 2.22 refers to Appendix A where CFR is reprinted. Our suggestion is that the permit or tech memo state: "where the Department has provided a reprint of an applicable federal regulation, in the case of any discrepancy or conflict between the reprint and the Code of Federal Regulations, the requirement in the CFR shall control." This way if there is a typo in their transcription, the CFR controls.

Response to Comment No. 7

The suggested statement was added to the beginning of Appendix A .

Comment No. 8

Condition 4.7.2 was fulfilled on or about November 15, 2001. Therefore, this should be deleted from the permit.

Response to Comment No. 8

Condition 4.7.2 was removed from the Tier I permit. DEQ acknowledged completion of this test requirement in a letter to Nu-West Industries on February 1, 2002.

Comment No. 9

Condition 4.8.2 reflects the requirements of 40 CFR 60.84(b) to determine the conversion factor. Nu West employs the alternative method set forth at 40 CFR 60.84(d). Therefore, this approach should be reflected in 4.8.2, not the current method stated.

Response to Comment No. 9

The Department concurs that the alternative method set forth at 40 CFR 60.84(d) applies, and it was added to Condition 4.8.

Comment No. 10

Conditions 5.7 through 5.11.10 and 5.13 have been satisfied and should be deleted from the Tier I Operating Permit. Currently this language infers that additional obligations are imposed through the NSPS. With the exception of ongoing emissions limitations, monitoring and record keeping requirements (conditions 5.11 and 5.12), Nu West has satisfied the NSPS. (See White Paper reference above which also discusses excluding from the Title V permit, those requirements that have been fulfilled.)

Response to Comment No. 10

NSPS requirements which are not applicable to the Nebraska Boiler were removed from the Tier I permit. This includes the following: 60.4(b); 60.13(d)(1 and 2); 60.13(e)(1); 60.46b(e)(1, 2, 3, and 5); 60.48b(b); 60.48b(c); 60.48b(d); 60.48b(e); 60.48b(f); and 60.49b(a)(2 and 4).

Comment No. 11

Condition 5.12 adds a new requirement to calculate emissions. The existing permit does not require this compliance demonstration. Nu-West is required to operate a low NOx burner, burn only natural gas, and record fuel consumption (see Conditions 5.4, 5.5, and 5.6). These monitoring requirements sufficiently ensure compliance with the emissions limits in Table 5.3. No additional work should be required.

Response to Comment No. 11

IDAPA 58.01.01.322.06 and .07 require sufficient monitoring and recordkeeping to assure compliance with the conditions of the Tier I permit. In this case, the technical analysis performed for PTC 029-00003, issued July 7, 1995 is sufficient to demonstrate ongoing compliance with the hourly and annual emission limits for PM, PM_{10}, SO_2, CO, and VOCs, so long as the annual fuel throughput limit of 1,768,000,000 scf of natural gas is not exceeded. Therefore, only monitoring and recordkeeping for this fuel throughput requirement is necessary. The permit and Technical memorandum were revised accordingly.

Comment No. 12

Conditions 5.14 through 5.22 recite directly from the CFR ---- note No.7 above.

Response to Comment No. 12

The suggested statement was added to the beginning of Section 5, "Regulatory Analysis," in the Technical Memorandum.

Comment No. 13

Condition 8.18.2 should be deleted because DEQ does not have delegated NSPS (CAA 111) authority.

Response to Comment No. 13

As noted, 40 CFR Part 52 does not delegate authority for NSPS to DEQ. Conditions 8.18.2 and 5.21.2 were deleted from the permit. In addition, a provision to send the Department copies of NSPS submittals sent to EPA was added to conditions 8.18.1 and 5.21.1 as per IDAPA 58.01.01.322.08.

Comment No. 14

General Provisions 28 and 29 are not appropriate Tier I General Provisions. The Department added to General Provision not previously included in draft Tier I operating permits reviewed by Nu-West. In addition, these conditions were specifically excluded from the Tier I General Provisions developed collaboratively by the Department and industry representatives in the Pilot Operating Permit program. As set forth in the Technical Memorandum on page 5, the documents developed by the POP group serve as the basis for development of this Tier I permit. These conditions were appropriate for the recently issued permit to construct where performance testing was required (as referred to in draft General Provision 28) or where the Department required a narrative standard to govern operation of equipment (as referred to in draft General Provision 29). In the Tier I, however, these general narrative requirements are more directly addressed by emission unit specific conditions in the body of the permit. Therefore, as discussed upon in the reference to the first White Paper issued by EPA, these condition may be eliminated from the underlying PTC using the Tier I process. This is appropriate in this case where the conditions fail to provide an additional environmental protection, are practically unenforceable, and redundant.

Response to Comment No. 14

PTC General Provisions B and F were removed from the Tier I General Provisions and placed into Sections 2 through 8 of the permit as they apply in the respective PTCs. It is noted that PTC General Provision F is not the same in all PTCs. The PTC General Provisions meet the definition for "applicable requirements" as given in IDAPA 58.01.01.008.03. Therefore, these PTC provisions are included in the Tier I permit as specified by IDAPA 58.01.01.322.03.

Comment No. 15

Appendix A, see No.7 above regarding copying of CFR.

Response to Comment No. 15

The suggested statement was added to the beginning of Appendix A .

Comment No. 16

Technical Memo section 10. Certification of compliance with NSPS and MACT compliance was submitted with the Tier I Operating Permit application, however, several tests were still pending on equipment subject to these rules at the time of the submission. The tests have been conducted and results have shown the equipment has demonstrated compliance with the rules.

Response to Comment No. 16

The comment is noted. No changes to the permit or Technical Memorandum are necessary.

EPA Rule Change

On June 13, 2002, EPA changed the MACT scrubber requirements for the Phosphoric Acid Manufacturing Plants and for the Phosphate Fertilizers Production Plants as given in 67 FR 40813-40818. The requirement to maintain an average of the pressure drop across each scrubber and of the flow rate of scrubbing liquid to each scrubber within the allowable ranges was changed from a three-hour average to a daily average.

Response

The permit and technical memorandum were changed to be consistent with the revised rule.

END OF COMMENTS